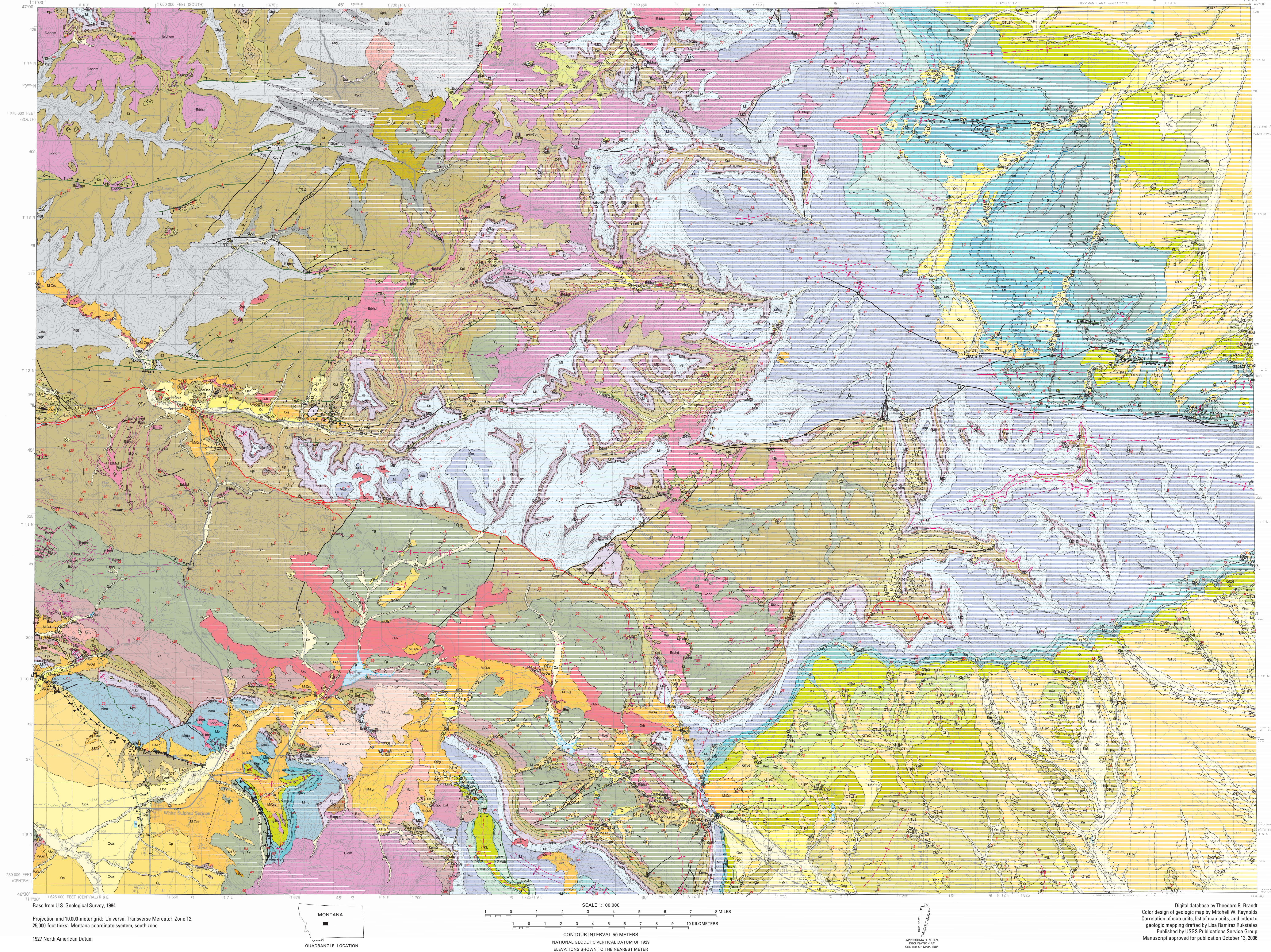


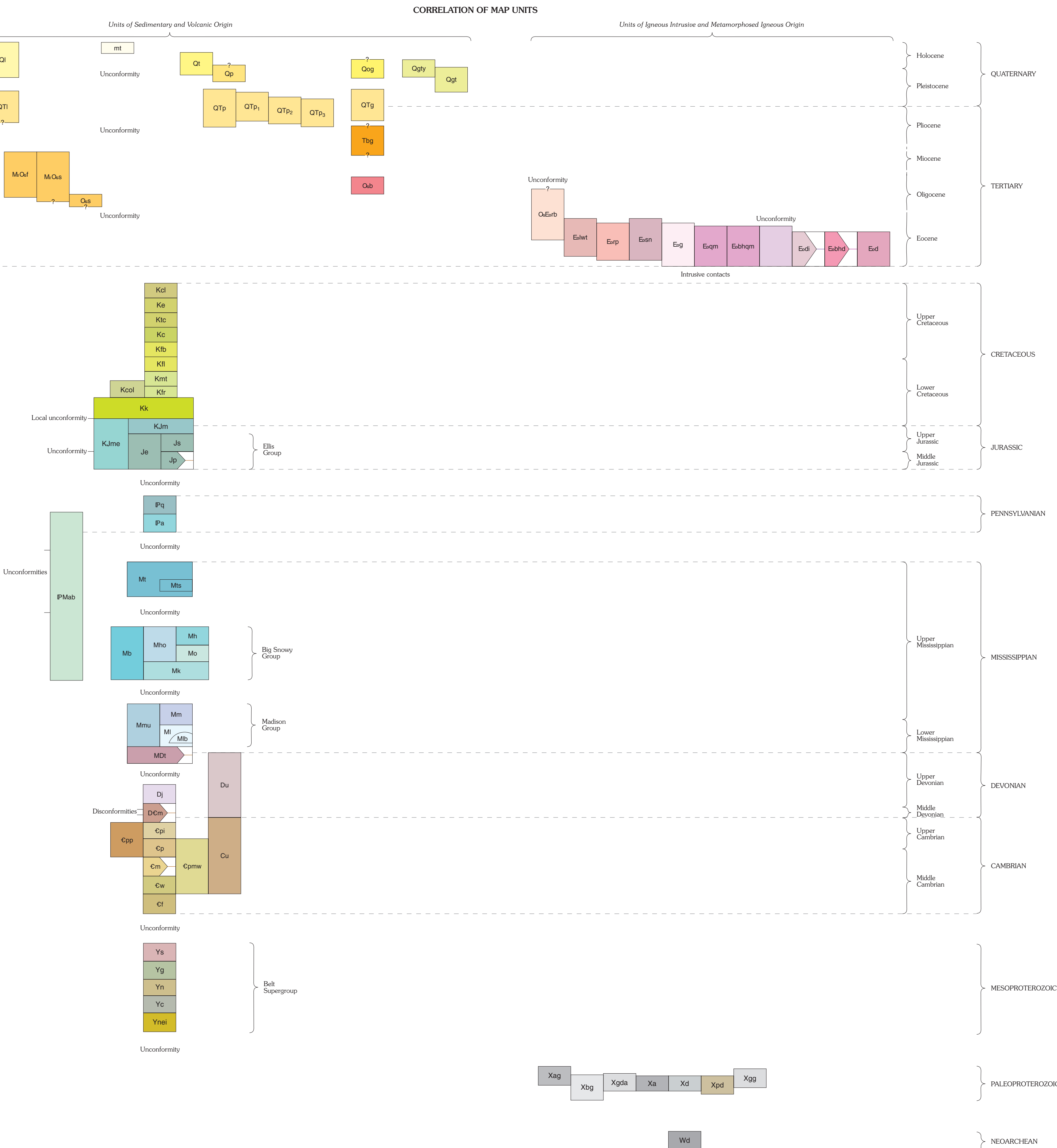


LIST OF MAP UNITS	
Qa	Alluvium (Holocene)
Qc	Colluvium (Pleistocene)
Qac	Alluvium and colluvium, undivided (Holocene)
Qd	Landslide deposit (Holocene and Pleistocene)
Qt	Mine tailings (Holocene)
Qp	Terrace gravel (Holocene and Pleistocene)
Qqg	Old gravel (Holocene or Pleistocene)
Qqy	Glacial till, younger, all where more than one age of till is recognized (Holocene and Pleistocene)
Qq1	Glacial till, undivided (Pleistocene)
Qq2	Old alluvium (Holocene? or Pleistocene?)
Qq3	Older alluvium deposit (Pleistocene or Pliocene?)
Qp1	Older pediment gravel, undivided (Pleistocene and Pliocene)
Qp2	Older pediment gravel, lowest level where two or more adjacent levels occur (Holocene, Pleistocene and Pliocene)
Qp3	Older pediment gravel, higher level where two or more adjacent levels occur (Holocene, Pleistocene and Pliocene)
Qp4	Older pediment gravel, highest level where more than two levels occur (Holocene, Pleistocene and Pliocene)
Qp5	Older gravel (Pleistocene or Pliocene)
Qp6	Boulder gravel (Pliocene? or Miocene?)
Qp7	Gravel and interbedded fine clastic strata (Pliocene and Miocene?)
Qp8	Sedimentary rocks with minor tuffaceous beds (Pliocene and Miocene)
Qp9	Fort Logan Formation (Miocene and Oligocene)
Qp10	Sedimentary rocks, undivided (Miocene and Oligocene)
Qp11	Basalt (Oligocene)
Qp12	Sedimentary rocks underlying basalt (Oligocene and Eocene?)
Qp13	Rhyolite with breccia blocks of Paleozoic rocks (Oligocene? and Eocene?)
Qp14	Lake-washed silt (Eocene)
Qp15	Rhyolite porphyry (Eocene)
Qp16	Shoshonite (Eocene)
Qp17	Gneiss (Eocene)
Qp18	Quartz monzonite (Eocene)
Qp19	Bioclastic limestone (Eocene)

LIST OF MAP UNITS	
Qp20	Monzonite (Eocene)
Qp21	Basaltic diorite (Eocene)
Qp22	Basaltic hornblende diorite (Eocene)
Qp23	Diorite (Eocene)
Qp24	Chert (Eocene)
Qp25	Chert (Eocene)
Qp26	Chert (Eocene)
Qp27	Chert (Eocene)
Qp28	Chert (Eocene)
Qp29	Chert (Eocene)
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Qp31	Chert (Eocene)
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Qp94	Chert (Eocene)
Qp95	Chert (Eocene)
Qp96	Chert (Eocene)
Qp97	Chert (Eocene)
Qp98	Chert (Eocene)
Qp99	Chert (Eocene)
Qp100	Chert (Eocene)

INDEX TO MAJOR SOURCES OF GEOLOGIC MAPPING AND 7.5-MINUTE QUADRANGLES	
1. Koster, W.B., 1972. Geologic map of the west half of the Neuhart 15-minute quadrangle, central Montana. U.S. Geological Survey Miscellaneous Geologic Investigation Map 1726, scale 1:62,500.	2. Reynolds, M.W., U.S. Geological Survey, unpublished detailed geologic mapping, scale 1:24,000.
3. Vogt, J.J., Foster, D.A., Mueller, P.A., Woods, J.L., and Mosk, D.W., 2004. Lithology and age of pre-Silurian Proterozoic basement in the Little Belt Mountains, Montana: implications for the role of the Great Falls tectonic zone in the Paleoproterozoic assembly of North America. Northwest Geology, v. 33, p. 15-29, figure 2, approximate scale 1:100,000.	

LIST OF MAP UNITS	
Mm	Mudstone Group, undivided (Upper and Lower Mississippian)
Mm1	Mudstone Group, undivided (Upper and Lower Mississippian)
Mm2	Mudstone Group, undivided (Upper and Lower Mississippian)
Mm3	Mudstone Group, undivided (Upper and Lower Mississippian)
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Mm100	Mudstone Group, undivided (Upper and Lower Mississippian)



PRELIMINARY GEOLOGIC MAP OF THE WHITE SULPHUR SPRINGS 30' x 60' QUADRANGLE, MONTANA

Mitchell W. Reynolds and Theodore R. Brandt